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Evaluating Your Firm's Injury & Illness Record, 1978 ...

3 Construction
Industries ...

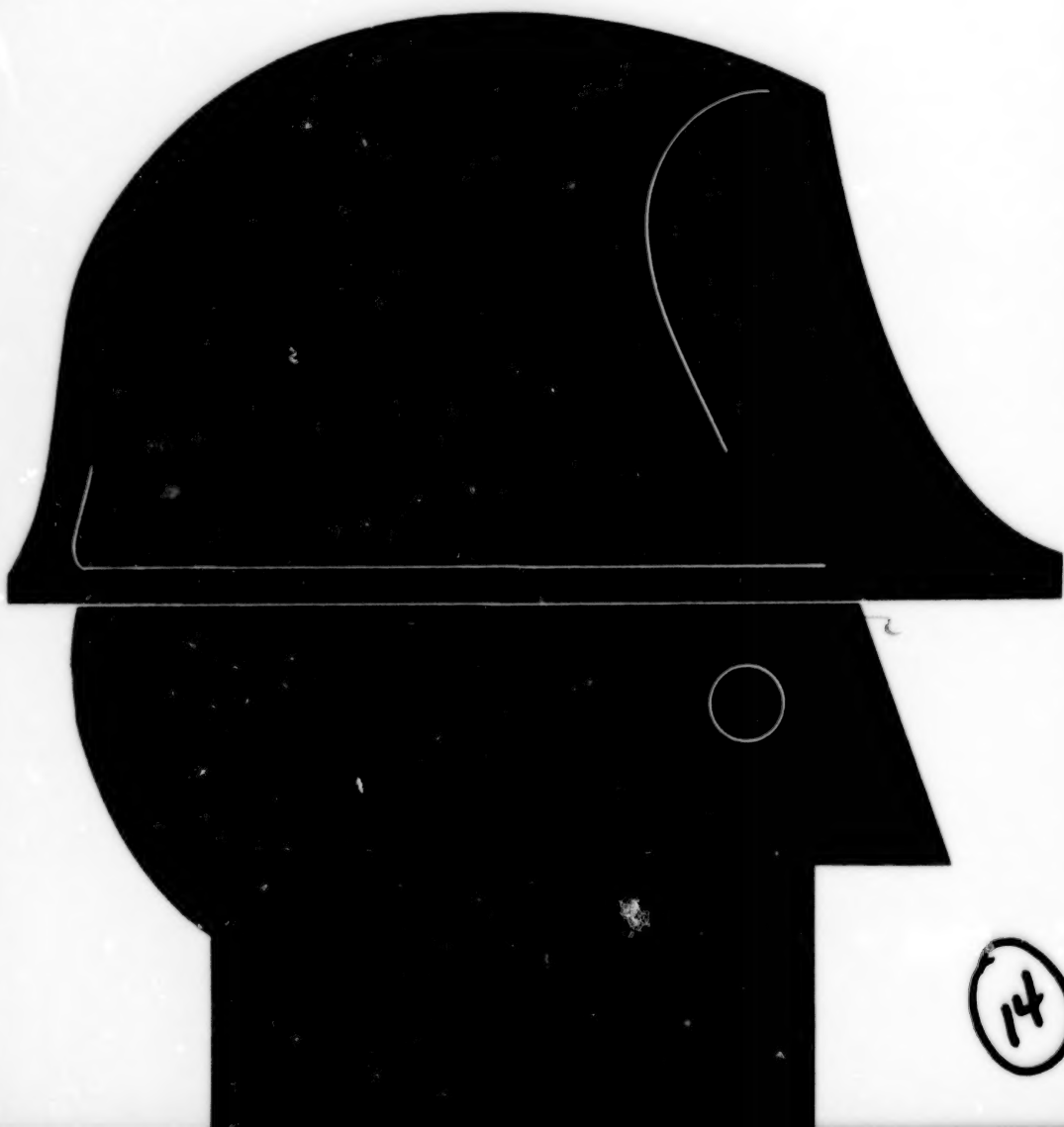


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U.S. Department of Labor...
Bureau of Labor Statistics,
April 1980

Report 588 ...



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U.S. Department of Labor
Ray Marshall, Secretary

Bureau of Labor Statistics
Janet L. Norwood
Commissioner
April 1980



Preface

Data for this guide were collected in accordance with the provisions of the Occupational Safety and Health Act of 1970. The guide was prepared in the Office of Occupational Safety and Health Statistics, Theodore J. Golonka, Assistant Commissioner, by the staff of the Division of Periodic Surveys, under the direction of William Mead.

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Evaluating Your Firm's Injury and Illness Record

As an employer, you know the value of a good safety record. Work-related injuries and illnesses are expensive both in decreased productivity and increased premiums for workers' compensation insurance. Add to this the sometimes permanent loss of a skilled technician's services and the effect on employee morale, and it becomes clear that a good occupational safety and health program is good business.

Incidence rates are a way to measure and compare a firm's safety performance with that of other companies. For example, if your firm had 25 employees and 3 injuries and illnesses during 1978 and your industry had a total of 20,000 employees and 1,450 injuries and illnesses, you may compare your performance to that of your industry. Computing incidence rates shows the equivalent numbers of injuries and illnesses per 100 full-time employees for both the firm and the industry. An explanation of how to compute an incidence rate begins below.

How to compare your firm's incidence rate to national rates for your industry and employment-size group is explained on pages 2 through 5. Incidence rates also may indicate the relative level of injuries and illnesses among different industries, firms, or operations within a single firm. Because a common base and a specific period of time are involved, these rates can help determine both problem areas and progress in preventing work-related injuries and illnesses.

How to compute your firm's incidence rate

You can compute an incidence rate of occupational injuries and illnesses for your firm quickly and easily. The formula requires:

(a) *The number of injuries and illnesses during 1978.* Count the number of line entries of recordable cases from your Log and Summary of Occupational Injuries and Illnesses, OSHA No. 200, or refer to the TOTALS line for the yearly total for fatalities, injuries and illnesses with lost workdays, and injuries and illnesses without lost workdays.

(b) *The number of hours all employees actually worked during 1978.* Use payroll or other time records. The "hours worked" figure should not include any nonwork time, even though paid, such as vacation, sick leave, holidays, etc. (If actual hours worked are not available for employees paid on commission, by salary, or by the mile, etc., hours worked may be estimated on the basis of

scheduled hours or 8 hours per workday.) An incidence rate of injuries and illnesses may be computed from the following formula:

$$\frac{(a) \text{ Number of injuries and illnesses} \times 200,000}{(b) \text{ Employee hours worked}} = \text{Incidence rate}$$

(The 200,000 hours in the formula represents the equivalent of 100 employees working 40 hours per week, 50 weeks per year, and provides the standard base for the incidence rates.)

Here is an example of how to compute an incidence rate:

Jones Concrete Co. experienced 15 recordable injuries and illnesses during 1978 (from log and summary, OSHA No. 200). The total hours worked by all employees during this period was 157,000 (from payroll or other time records).

$$\frac{15 \times 200,000}{157,000} = 19.1$$

Therefore, Jones Concrete Co. experienced a rate of 19.1 injuries and illnesses per 100 full-time employees during 1978.

To compute an incidence rate for your own firm, enter the data in the appropriate boxes below and complete the formula.

Number of injuries and illnesses in your firm in 1978

	×	200,000		=	<div style="border: 1px solid black; width: 150px; height: 40px; margin: 0 auto;"></div>
<div style="border: 1px solid black; width: 250px; height: 40px; margin: 0 auto;"></div>				<p>(Round to the nearest tenth)</p>	
<p>Hours worked by all your employees in 1978</p>					

The incidence rate for your firm is the number of injuries and illnesses per 100 full-time employees during 1978.

You may also be interested in computing incidence rates for previous years to see how your rate has changed. Or in computing your rate by department, or on a monthly or other seasonal basis to measure differences caused by new safety practices or other factors. The formula remains the same; be sure, how-

ever, that the number of injuries and illnesses corresponds to hours worked for the department or time frame you are using.

What your incidence rate tells

Incidence rates take on more meaning when one firm is compared with others in its industry and employment-size group. The example for Jones Concrete Co. shows how to make such a comparison. The table which begins on page 7 provides the information needed.

How Jones Concrete Co. evaluated its safety and health performance:

Jones Concrete is primarily engaged in surfacing concrete floors; data for this industry are included under concrete work.

Average employment for Jones Concrete during 1978 was 80; comparable data are shown in the employment-size group 50 to 99.

Appropriate data for that industry and employment-size group are indicated in the following excerpt from the incidence rate table:

Occupational injury and illness incidence rates for construction industries by employment size and quartile distribution, United States, 1978

Industry and employment size	Incidence rates per 100 full-time workers			
	Column A	Column B	Column C	Column D
	Average incidence rates for all establishments: (mean)	One-quarter of the establishments had a rate lower than or equal to: (1st quartile)	One-half of the establishments had a rate lower than or equal to: (median)	One-quarter of the establishments had a rate higher than or equal to: (3rd quartile)
Special trade contractors				
Concrete work:				
All sizes	14.6	0.0	0.0	10.8
1 to 19	9.4	.0	.0	.0
20 to 49	15.4	.0	9.1	22.1
50 to 99	23.1	8.2	18.7	28.9
100 to 249	20.1	11.0	16.8	32.5
250 to 499	30.5	(1)	(1)	(1)

Jones Concrete had a computed incidence rate of 19.1 (see page 2). This rate indicates that in 1978, employees in Jones Concrete experienced 19.1 injuries and illnesses per 100 full-time employees, or in other words, if 100 employees worked full time in Jones Concrete about 19 injuries and illnesses would have been recorded during the year.

Column A of the table shows an average of 23.1 injuries and illnesses per 100 full-time workers occurring in establishments in the same industry and employment-size group. The incidence rate for Jones Concrete was thus, about 17 percent lower than the average.

The 23.1 in column A may reflect a few reporting units having an unusually high or low number of cases, however. If the number of recordable cases in five establishments was 6, 6, 8, 10, and 50, for example, the average for the group would be 16, even though most of the firms had fewer than 10 cases. Columns B, C, and D show how establishments within an industry are distributed by rate. Since the 19.1 rate for Jones Concrete was higher than the 18.7 rate in column C, the company had a higher rate than at least one-half of the establishments. Since its 19.1 rate is less than the 28.9 rate in column D, the company had a lower rate than at least one-quarter of the establishments.

How to evaluate your performance:

Select the industry from the table that included your firm's primary activity in 1978. Use the average employment for your firm in 1978 to determine the appropriate size group from those shown for your industry in the table. (To get average employment, add the number of employees during each payroll period and divide the sum by the number of such payroll periods.) If data are not available for your firm's employment-size group, use the category closest to your firm's employment level, or the all-sizes category for your industry in your evaluation.

Referring to the table which begins on page 7, complete the following:

Industry and employment-size group for your firm in 1978	Rate from col. A	Rate from col. B	Rate from col. C	Rate from col. D

Your rate

Incidence rate for your firm as computed on page 2 of this guide

Rate from column A

may be compared to

Average number of injuries and illnesses per 100 full-time workers during 1978 in your industry and employment-size group.

Next, see where the incidence rate for your establishment falls in the range of other establishments in the same industry and employment-size group; use data in columns B, C, and D to check one of the four statements:

- (1) Your rate is lower than or equal to the rate in column B.

Meaning: Your firm had a rate lower than at least three-quarters of the establishments.

- (2) Your rate is higher than the rate in column B, but lower than the rate in column C.

Meaning: Your firm had a rate higher than one-quarter of the establishments, but your rate was still lower than the rates for one-half of the establishments.

- (3) Your rate is higher than or equal to the rate in column C, but lower than the rate in column D.

Meaning: Your firm had a rate higher than at least one-half of the establishments, but your rate was still lower than the rates for one-quarter of the establishments.

- (4) Your rate is higher than or equal to the rate in column D.

Meaning: Your firm had a rate higher than at least three-quarters of the establishments.

Perhaps your safety and health experience during 1978 was much better than that of most of the firms in your industry and employment-size group. Or you may have found that your safety and health performance was below par. In either case, your OSHA self-evaluation is still not complete.

Past performance is the best guide to improve your safety and health program. Reviewing your records may help to identify characteristics common to several cases. For example, several injuries may have resulted from the use of a particular type of equipment, or slips and falls may have increased after you began using a different type of scaffold. To spot such occurrences, group cases by type of accident, equipment or tools involved, the nature of the injury sustained, or any other kind of classification which seems applicable. Once an unsafe condition or act is identified, you can take steps to eliminate it.

Employers, employees, and others benefit from an effective job safety and health program. During 1978, nearly 576,600 recorded injuries and illnesses occurred in the construction industries. About 230,900 lost workday cases re-

sulted in a loss of about 15,800 employee years of work. You can help reduce this toll.

If you have any questions concerning this guide or any other aspect of occupational safety and health statistics, including OSHA recordkeeping requirements, please contact the Bureau of Labor Statistics Regional Office in your area. Addresses and phone numbers for all Regional Offices are listed on the back cover.

Occupational injury and illness incidence rates for construction industries by employment size and quartile distribution, United States, 1978

Industry and employment size	Incidence rates per 100 full-time workers			
	Column A	Column B	Column C	Column D
	Average incidence rates for all establishments: (mean)	One-quarter of the establishments had a rate lower than or equal to: (1st quartile)	One-half of the establishments had a rate lower than or equal to: (median)	One-quarter of the establishments had a rate higher than or equal to: (3rd quartile)
General building contractors				
Nonresidential building construction:				
All sizes.....	19.2	0.0	0.0	22.7
1 to 19.....	12.4	.0	.0	11.9
20 to 49.....	19.4	1.3	16.4	28.1
50 to 99.....	23.3	12.1	23.3	32.9
100 to 249.....	24.3	11.5	22.9	35.8
250 to 499.....	21.5	11.5	20.3	31.3
500 to 999.....	16.6	9.1	18.3	27.0
1,000 to 2,499.....	12.8	(1)	(1)	(1)
Operative builders:				
All sizes.....	15.7	.0	.0	.0
1 to 19.....	7.8	.0	.0	.0
20 to 49.....	14.3	.0	9.1	19.4
50 to 99.....	15.5	2.5	12.6	24.1
100 to 249.....	16.7	6.6	16.0	25.8
250 to 499.....	15.3	(1)	(1)	(1)
500 to 999.....	14.2	(1)	(1)	(1)
Residential building construction:				
All sizes.....	13.3	.0	.0	.0
1 to 19.....	8.5	.0	.0	.0
20 to 49.....	18.1	.0	12.2	28.1
50 to 99.....	21.7	7.2	19.7	33.7
100 to 249.....	19.6	2.4	18.0	31.7
250 to 499.....	22.8	7.5	17.7	29.2
500 to 999.....	38.4	(1)	(1)	(1)
Heavy construction contractors				
Heavy construction, except highway:				
All sizes.....	17.2	.0	0	19.7
1 to 19.....	10.4	.0	.0	.0
20 to 49.....	18.0	3.8	14.9	26.9
50 to 99.....	21.1	10.1	20.8	30.5
100 to 249.....	21.7	10.6	19.0	32.9
250 to 499.....	23.8	12.7	22.5	34.4
500 to 999.....	17.9	8.1	13.7	20.8
1,000 to 2,499.....	16.0	6.2	14.1	28.7
2,500 and over.....	6.3	(1)	(1)	(1)
Highway and street construction:				
All sizes.....	15.2	.0	.0	16.7
1 to 19.....	9.6	.0	.0	.0
20 to 49.....	14.3	2.5	11.7	21.2
50 to 99.....	16.0	6.1	14.1	25.2
100 to 249.....	16.8	9.0	17.1	24.3
250 to 499.....	16.8	10.7	17.6	23.3
500 to 999.....	18.7	(1)	(1)	(1)
Special trade contractors				
Carpentering and flooring:				
All sizes.....	13.6	.0	.0	.0
1 to 19.....	8.5	.0	.0	.0
20 to 49.....	16.7	.0	10.4	26.2
50 to 99.....	25.0	8.8	22.0	36
100 to 249.....	28.6	13.9	31.8	42.3
250 to 499.....	36.4	(1)	(1)	(1)

See footnotes at end of table.

Occupational injury and illness incidence rates for construction industries by employment size and quartile distribution, United States, 1978—Continued

Industry and employment size	Incidence rates per 100 full-time workers			
	Column A	Column B	Column C	Column D
	Average incidence rates for all establishments: (mean)	One-quarter of the establishments had a rate lower than or equal to: (1st quartile)	One-half of the establishments had a rate lower than or equal to: (median)	One-quarter of the establishments had a rate higher than or equal to: (3rd quartile)
Concrete work:				
All sizes.....	14.6	0.0	0.0	10.8
1 to 19.....	9.4	.0	.0	.0
20 to 49.....	15.4	.0	9.1	22.1
50 to 99.....	23.1	8.2	18.7	28.9
100 to 249.....	20.1	11.0	16.8	32.5
250 to 499.....	30.5	(1)	(1)	(1)
Electrical work:				
All sizes.....	14.0	.0	.0	9.6
1 to 19.....	8.8	.0	.0	.0
20 to 49.....	15.5	.0	12.8	24.5
50 to 99.....	20.4	9.5	19.7	28.9
100 to 249.....	18.5	8.0	18.0	28.4
250 to 499.....	16.0	7.6	13.3	25.5
500 to 999.....	12.4	(1)	(1)	(1)
Masonry, stonework, and plastering:				
All sizes.....	15.6	.0	.0	2.9
1 to 19.....	8.9	.0	.0	.0
20 to 49.....	17.9	.0	13.4	28.0
50 to 99.....	22.6	10.3	21.4	32.1
100 to 249.....	23.9	13.2	23.6	31.9
250 to 499.....	23.7	(1)	(1)	(1)
Painting, paper hanging, and decorating:				
All sizes.....	9.4	.0	.0	.0
1 to 19.....	5.5	.0	.0	.0
20 to 49.....	11.4	.0	6.0	17.3
50 to 99.....	16.4	3.0	10.8	24.1
100 to 249.....	18.9	3.6	13.7	25.7
Plumbing, heating, and air conditioning:				
All sizes.....	16.9	.0	.0	9.1
1 to 19.....	9.7	.0	.0	.0
20 to 49.....	19.2	1.1	15.6	30.3
50 to 99.....	23.6	12.0	22.3	33.0
100 to 249.....	24.8	12.1	23.3	36.5
250 to 499.....	23.2	11.2	20.8	31.6
500 to 999.....	26.2	(1)	(1)	(1)
1,000 to 2,499.....	38.4	(1)	(1)	(1)
Roofing and sheet-metal work:				
All sizes.....	22.5	.0	.0	22.9
1 to 19.....	15.8	.0	.0	13.7
20 to 49.....	28.1	7.5	24.3	42.7
50 to 99.....	27.6	12.3	27.2	42.2
100 to 249.....	24.2	11.8	22.2	38.1
Water well drilling:				
All sizes.....	12.8	.0	.0	.0
1 to 19.....	9.6	.0	.0	.0
20 to 49.....	20.4	9.4	20.2	28.7
50 to 99.....	18.3	(1)	(1)	(1)

See footnotes at end of table.

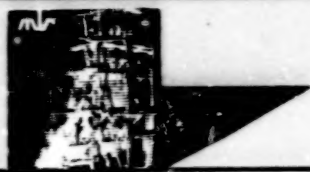
Occupational injury and illness incidence rates for construction industries by employment size and quartile distribution, United States, 1978—Continued

Industry and employment size	Incidence rates per 100 full-time workers			
	Column A	Column B	Column C	Column D
	Average incidence rates for all establishments: (mean)	One-quarter of the establishments had a rate lower than or equal to: (1st quartile)	One-half of the establishments had a rate lower than or equal to: (median)	One-quarter of the establishments had a rate higher than or equal to: (3rd quartile)
Miscellaneous special trade contractors:				
All sizes.....	16.9	0.0	0.0	13.3
1 to 19.....	11.6	.0	0.0	.0
20 to 49.....	19.2	.0	13.7	29.1
50 to 99.....	22.0	7.0	19.6	36.2
100 to 249.....	23.0	11.7	19.2	31.8
250 to 499.....	19.8	(1)	(1)	(1)

¹ Quartile rates were not derived because fewer than 25 establishment reports were included in the industry employment size group.

NOTE: If data are not available for your firm's employment size group, use the category closest to your firm's employment level or the all sizes category for your industry in your evaluation.

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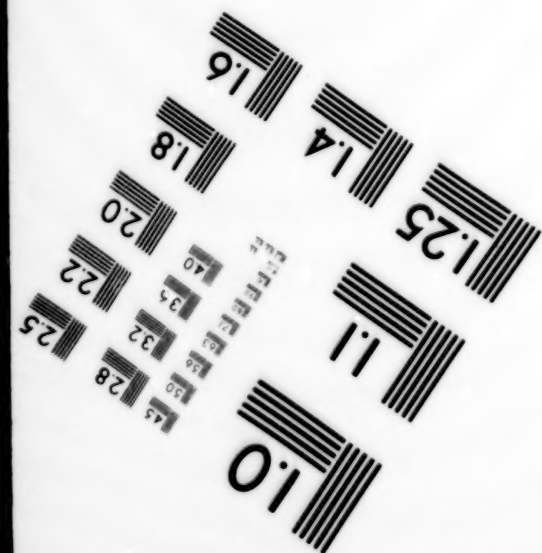
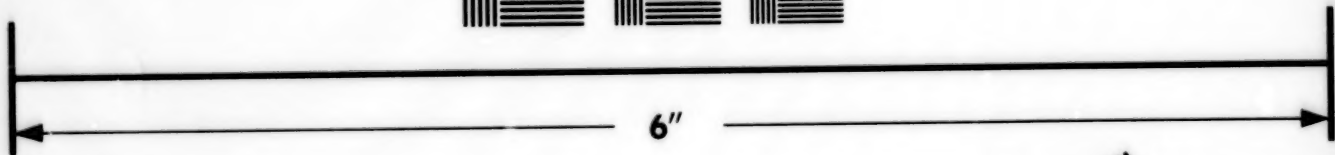
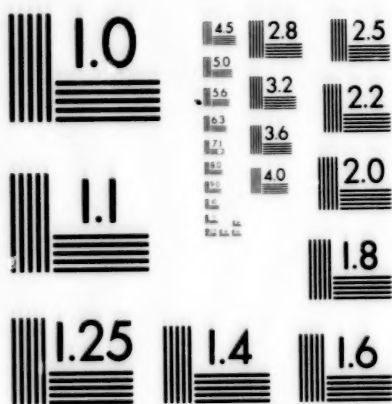
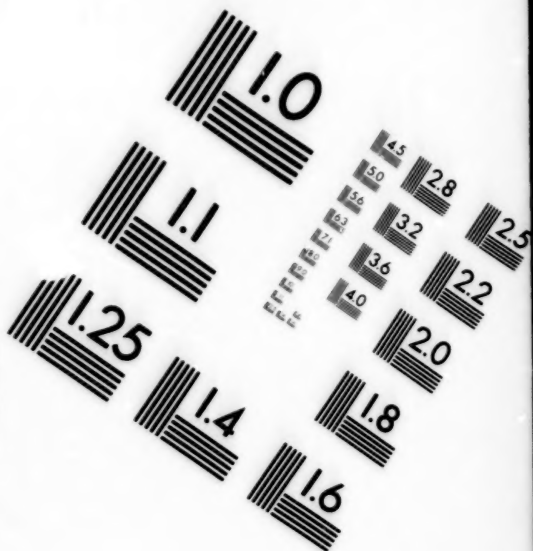
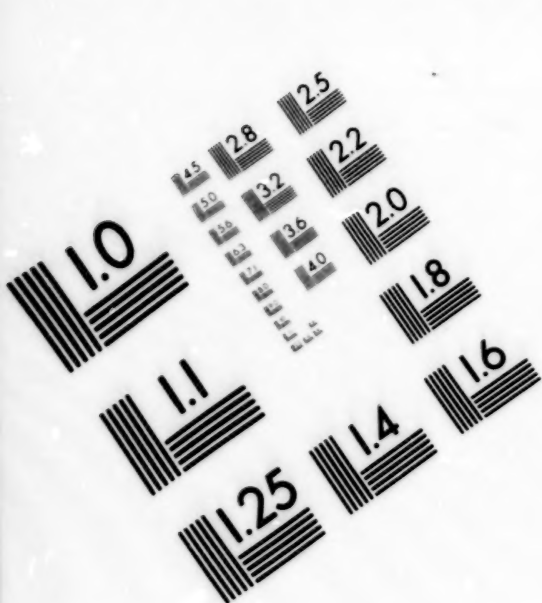
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